

Identification and Listing of Hazardous Waste
Under RCRA, Subtitle C, Section 3001. Hazardous
Waste from Discarding of Commercial Chemical
Products and the Containers and Spill Residues
Thereof (40 CFR 261.33)

(U.S.) Environmental Protection Agency
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BACKGROUND DOCUMENT

IDENTIFICATION AND LISTING OF HAZARDOUS WASTE
UNDER RCRA, SUBTITLE C, SECTION 3001

Hazardous Waste from Discarding of Commercial
Chemical Products and the Containers and Spill
Residues Thereof
(40 CFR 261.33)

This document (ms. 1941.27) provides background information
and support for EPA's hazardous waste regulations

U.S. ENVIRONMENTAL PROTECTION AGENCY
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This document explains the basis for regulations concerning discarded commercial products. Commercial chemical products or manufacturing chemical intermediates are divided into two categories: those which are acutely hazardous and subject to stringent exclusion levels; and those which are hazardous and which are regulated in the same manner as other hazardous wastes. These regulations concern commercial chemical products and associated off-specification chemical products, spill cleanup residues, and debris. For acutely hazardous chemicals, the regulations also cover containers and inner liners which contained the acutely hazardous chemicals.				
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INTRODUCTION

This background document explains the basis for regulations concerning discarded commercial products, which are described and listed in §261.33 and for which exclusion levels are established in §261.5. Commercial chemical products or manufacturing chemical intermediates are divided into two categories: those which are acutely hazardous and subject to stringent exclusion levels; and those which are hazardous and which are regulated in the same manner as other hazardous wastes. These regulations concern commercial chemical products, and associated off-specification chemical products, spill cleanup residues and debris. For acutely hazardous chemicals, the regulations also cover containers and inner liners which contained the acutely hazardous chemicals.

PROPOSED RULES

Synopsis of Proposed Rules

Appendices III, IV, and V of the Proposed Rules and Appendix XII of the Supplemental Proposed Rule listed approximately 300 toxic chemicals. Appendix III listed 24 pesticides which either had been cancelled for some or all uses under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) or were undergoing RPAR (rebuttable presumption against registration) under FIFRA. Appendix IV listed 157 chemicals that were listed as Poison A, Poison B or ORM-A materials in the Department of Transportation regulations under 49 CFR Parts 172 and 173. Appendix V listed the remainder of the 129 toxic priority pollutants (not already included on Appendices III or IV) for which effluent guidelines limitations were being developed under the Clean Water Act. Appendix XII listed 33 chemicals that had been found to be human carcinogens or potential human carcinogens by the International Agency for Research on Cancer.

By reference to the appendices these hazardous chemicals, if discarded, were listed as hazardous wastes in §250.14(a) of the Proposed Rules. In addition, §250.14(a) also provided that off-specification species of these toxic chemicals, if discarded; the emptied containers from these chemicals, if not triple rinsed; and the clean-up residues and debris from spills of these chemicals were hazardous wastes.

In adopting these chemicals EPA relied heavily on the work done by other offices in the Agency, or by other agencies. The Agency believed that each listed chemical possessed toxic properties: that they either exhibited the proposed toxicity characteristic or that they were toxic organic or mutagenic, carcinogenic or teratogenic substances. The Agency had not, however, evaluated each substance with reference to either the characteristic of hazardous waste or criteria for listing.

These chemicals were proposed to be hazardous wastes if (1) they, themselves, were discarded, (2) off-specification species of these chemicals were discarded, (3) containers which formerly contained these chemicals were discarded or (4) clean-up residues and debris from spills of these chemicals were discarded. Importantly, these chemicals were not listed to be used to cause solid wastes derived from manufacturing processes (and which might only contain very low concentrations of these chemicals) to be listed as hazardous wastes. As is noted later in this document, this point was misunderstood by many commenters.

Section 250.29(a) of the Proposed Rules provided that any retailer or any person who produced and disposed of no more than 100 kilograms of hazardous waste in any one month would not be subject to the full Subtitle C regulation if the waste was disposed of in a Subtitle D facility. The effects of this exemption were that (1) any retailer could discard any and all quantities of these chemicals or the associated materials

described above without being subject to regulation and (2) any small quantity generator could discard as much as 100 kilograms per month* of these chemicals or the associated materials without being subject to the Subtitle C regulations. Consequently, these chemicals and associated materials effectively were hazardous wastes only if generated by non-retail and large-quantity (greater than 100 kilograms per month) generators.

* Provided he discarded no other hazardous wastes. The exemption, as proposed, covered total quantity of hazardous wastes. Hence, only 100 kilogram of the 295 chemicals and other hazardous wastes, in aggregate, in any one month, were excluded. The final exclusions also relate to total quantities of hazardous waste.

Rationale for Proposed Rules

In the development of the Proposed Rules, a number of persons, pointed out that an important part of the hazardous waste generated throughout the country were commercial chemicals that normally are not discarded but, for a variety of reasons, are occasionally discarded.

Examples given were reduction of inventory, changes in product line, cancellation of pesticides, no further use for remaining stocks and residuals from batch-process manufacturing or formulating operations. In particular operators of solid waste management facilities indicated that some "wastes" which they receive are discarded pure chemicals as opposed to typical wastes from manufacturing or other activities. These same persons also indicated that off-specification chemicals are sometimes discarded. The Agency recognized that some of these chemicals and off-specification materials were toxic and, even though discarded only occasionally (and usually in small amounts,) could pose a substantial hazard to human health or the environment.

In concert with this advice, the Agency concluded that pesticides that had been cancelled or were being reviewed for possible cancellation action (Appendix III of the Proposed Rules) and Poison A, Poison B and ORM-A materials that are regulated by the Department of Transportation because of their threat to safety (Appendix IV) constituted chemicals that were toxic and, if discarded, could pose substantial hazard to human health or the environment. It further concluded that the toxic pollutants being regulated under §307(a) under the Clean Water Act (Appendix V, unless already listed in Appendix III or IV,) and known or suspected human carcinogens (Appendix XII) were hazardous materials that posed significant risk to human health or the environment, if discarded. Consequently, these chemicals were listed in the Proposed Rules and were established to be hazardous wastes if they or their off-specification species were discarded.

The Agency also learned that a significant part of solid wastes was empty containers, including containers that had contained toxic chemicals. These empty containers typically contain chemical residues because they had not been rinsed or otherwise decontaminated. It also was said that, often times, containers were not completely empty and contained significant amounts of chemicals. Finally, the Agency had reports of several damage cases where the chemical residues left in discarded containers had caused human health injury. One such incident involved a child who was hospitalized for organophosphate

poisoning after playing among empty pesticide drums purchased by the city for use as trash containers.(U.S. House of Representatives, House Report 94-1491 at 22). On the basis of this advice, the Agency reasoned that unrinsed contaminated discarded containers, that had held any of the chemicals discussed above, could cause injury and pose other substantial hazards to human health or the environment. Consequently, it included such containers in the proposed list of hazardous wastes.

Finally, the Agency recognized that there were occasional spills during the transportation or storage of chemicals which resulted in the contamination of soils, waters and other materials, including debris. Toxic chemicals were no more immune to occasional spills during their manufacture, storage, transportation or use than oils; spills with which the Agency had considerable experience. Thus, the Agency concluded that the contaminated spill clean-up residues and debris from toxic chemical spills, if not properly disposed of as hazardous wastes, pose substantial hazard to human health or the environment. Consequently, it included such residues and debris in the proposed list of hazardous wastes. In other words, while the Clean Water Act provides for reporting and clean-up of spilled materials of spills into the navigable waters, this RCRA provision requires management of spills of these listed materials as hazardous waste. Additionally, it provides coverage for in-plant or other spills not within the scope of the Clean Water Act regulations.

The Agency's rationale for excluding, from Subtitle C regulation, hazardous waste generated by retailers and small quantity generators is discussed in a separate Background Document. It is to be noted here, however, that the proposed exclusion was based principally on considerations applicable to the other hazardous wastes listed in the Proposed Rules. Chemical products differ from other hazardous wastes in two respects: generally they are a valuable commodity and therefore not normally discarded; and, they are discarded in pure, undiluted form, which increases their risk to human health and the environment if improperly disposed of. These distinctions led EPA to consider treating these hazardous wastes separately.

Response to Comments

General

A number of commenters misunderstood the Proposed Rules and assumed that any waste, including manufacturing process wastes, containing any of the chemicals listed in Appendices III, IV, V and XII would be a hazardous waste. This led several of these commenters to urge that a quantity or concentration level, below which a waste would not be a hazardous waste, be established for each chemical listed in the Appendices. Other commenters urged that, if the Appendices only applied to pure chemicals and then only applied when they are discarded, these points should be emphasized. The Agency recognizes that the language of the Proposed Rules may have been confusing. Consequently, it has substantially re-written the provisions, currently in §261.33 of the Final Rules, and has added an extensive comment to clarify the points raised by these commenters. This amplification is further discussed in the following section, Reconsideration of the Proposed Rules, of this document.

One commenter urged that degree of hazard be incorporated in the wastes listed in §250.14(a) and the related Appendices. The Agency's response to comments on the broad topic of the use of degree of hazard in the listing of hazardous wastes is discussed in a separate Background Document.

Basis for Listing

A few commenters seemed to suggest that Appendices III, IV, V and XII should be used to cause wastes containing any of the listed chemicals to be hazardous wastes. This would essentially change the list into a "characteristic" with its attendant responsibilities for the generator. The Agency did not intend such a result. However, the Agency has revised its criteria for listing hazardous wastes (see §261.11 of the Final Rules) to include this concept. The Agency has developed a list of hazardous constituents, Appendix VIII, and will presume that a waste containing any of those constituents is a hazardous waste unless consideration of other factors, such as quantity of the waste, concentration of the toxic agent or mobility of the toxicant, etc., causes the Agency to conclude that the waste does not pose a substantial hazard to human health or the environment. This criterion requires the Agency to make a determination to list such wastes; it is not the responsibility of the regulated community to designate unlisted wastes as hazardous wastes because they contain materials on Appendix VIII. Appendix VIII does in fact contain the toxic substances listed in §261.33(e) of the final rule. A more detailed discussion of this criterion is provided in the Background Document covering §261.11 of the Final Rules.

Several commenters pointed out that the basis for listing each chemical listed in Appendices III, IV and V was not given;

rather the generic basis for listing was given in the waste classes listed in §250.14(a) where the designation of T, O and M indicated that all the chemicals listed in the Appendices are hazardous because they possess the toxicity characteristic and contain toxic organic and carcinogenic, mutagenic and teratogenic constituents. These commenters noted that certain of the listed chemicals did not meet all three of these listing criteria.

The Agency agrees and admits that it should have placed the specific basis for listing with each chemical in the Appendices rather than in §250.14(a). In the final rule, EPA has classified the basis for listing the chemical products subject to regulation. The substances contained in the original listings have been reviewed to determine whether they satisfy the listing criteria. A table (Appendix A) accompanying this background document indicates the disposition of each substance originally listed. For those that remain on §261.33(e) the basis for such inclusion is noted. A second table (Appendix B) indicates the basis for listing of the substances on §261.33(f). Also noted on these tables are references to the documentary material supporting the inclusions. These documents include health effects documents prepared in support of these regulations; materials supporting RPAR actions; background documents supporting National Interim Primary Drinking Water Standards, materials of EPA's Cancer Assessment Group; data obtained from the NIOSH Registry of Toxic Effects, Sax's Dangerous Properties

of Industrial Materials and the Research and Development Compendium, Part I Materials Classification put out by the Department of Transportation; and, in the case of chloro-fluorocarbons, documents supporting regulations under TSCA.

Single List

Two commenters found the three lists of chemicals (Appendices III, IV and V) confusing and urged that they be combined. The Agency concurs and has employed only one list for each category in the Final Rules, (§§261.33(e) and (f)).

Listing of Off-Specification Materials

One commenter urged that a clear distinction be made between off-specification materials which are reprocessed rather than discarded and that only the latter be regulated. The Final rule has been clarified to apply only to discarded material.

Listing of ORM-A Substances

Several commenters objected to the listing, in Appendix IV, of chemicals that are classified by the Department of Transportation (DOT) as ORM-A materials. These commenters claimed that ORM-A materials are regulated by DOT because they possess properties that interfere with transportation safety not because they are hazardous. An ORM-A material is one that has an anesthetic, irritating, noxious, toxic or other similar property which can cause extreme annoyance or discomfort to passengers and crew in the event of leakage during transportation [49 CFR 173.500(a)(1)]. The Agency concurs with this comment and has not listed chemicals in the Final Rules simply because they

are ORM-A materials. Rather than adopt the proposed list in toto, EPA has evaluated each substance in accordance with the criteria for listing. This review has resulted in a number of chemicals being listed as acutely hazardous in §261.33(e) and hazardous in §261.33(f) or dropped from the EPA lists of hazardous wastes because no data was available to the Agency to support such a listing.

Another commenter objected to Appendix IV, as a whole, because it listed chemicals that are hazardous in transportation and not necessarily hazardous at other times. The Agency has listed a number of chemicals in the Final Rules that DOT lists as Poison A and Poison B materials. The basis for this listing, however, is not that they only pose transportation hazard but, rather, that they are acutely toxic, satisfying the acutely hazardous criterion, and present a threat to human health and the environment when discarded.

Listing of Containers

Several commenters were troubled by the inflexibility of the triple-rinse provision in the proposed listing of containers in §250.14(a). This provision excluded, as hazardous waste, containers of the listed chemicals that had been triple-rinsed. This procedure is an EPA recommended practice for pesticide containers (40 CFR 165.9) and also a part of several State programs (e.g., Washington, Oregon).

Basically, these commenters suggested that there are other ways to effectively decontaminate containers. One suggested

rinsing with one-tenth volume of the container, but did not specify the type of solution. Another recommended incineration but gave no specifications. Still another pointed out that the EPA registered label for the pesticide, Malathion ULV Concentrate, specifies a rinsing solution and procedure that does not comport with triple rinsing as defined in the Proposed Rules. The Agency recognizes that there are a large number of ways for rinsing or otherwise decontaminating containers. Many of these methods are unique to the type of chemical previously contained by the container; e.g., a specific solvent should be used. As such, the Agency has allowed, in the final regulations, persons to use alternative methods to decontaminate containers. The person may, however, be required to demonstrate that these methods are equivalent to triple rinsing.

One commenter suggested that the weight of the container itself be considered in establishing the small quantity generator exclusion limits proposed in §250.29. EPA does not agree since the size of the container, i.e., those containers which may be used by the public for other purposes--e.g., trash cans, barbecue pits, etc.--is the real concern not the weight of the container. However, the Agency does consider the weight of inner liners to be an important factor in setting a de minimis quantity and, thus, has given consideration to the weight of such inner liners in establishing the small quantity cut-offs for small quantity generators.

Listing of Spill Residues and Debris

One commenter urged that small amounts of contaminated spill clean-up residues and debris be excluded from the listing of these wastes under §250.14(a). The Agency has provided such an exclusion for aggregate amounts of residue and contaminated debris less than 100 kilograms (220 pounds). This exclusion is provided in §261.4(c)(4) and is discussed in the following section of this document.

Another commenter urged a more precise definition of spill clean-up debris to avoid including wrecked rail cars and damaged trucks as hazardous waste. The Agency does not know how to define debris to avoid the consequences noted by the commenter. It believes that it can rely on the reasonable implementation and enforcement of this provision by EPA and State personnel to avoid absurd results. The difficulty in providing a precise definition is that occasionally large equipment is severely contaminated by spilled material. For example, this could occur in a spill of toxaphene which is an extremely toxic chemical. The Agency assumes however, that in virtually all cases, heavy equipment can be decontaminated and need not become part of contaminated debris. If it cannot be decontaminated it must be treated as a hazardous waste.

Modification of the List of Chemicals

Several commenters urged that procedures be available to add to or delete from the list of chemicals in Appendices III, IV, V and XII. The Agency believes that revisions to the list of chemicals (now in §§261.33(e) and (f) of the Final Rules)

should be achieved only through rulemaking. For this purpose and to enable modifications to other parts of the Subtitle C regulations, the Agency has provided procedures for petitioning the Agency to make revisions through rulemaking. These procedures are established in §260.20 of the Final Rules.

Importantly, deletions from the lists of chemicals in Appendix VIII and §261.33 are not available through the delisting procedures established in §260.22. The §260.22 delisting procedures are designed and intended to apply to individual generation sites to enable the administrative delisting of wastes that are fundamentally different from those listed in §§261.31 and 261.32. The primary difference would be that the waste did not contain the constituent of concern (or contained it in such low concentrations that the waste was not hazardous); or other information could be provided by the generator to demonstrate significant differences in the persistence, bioaccumulation potential or mobility potential of the hazardous constituent; or significant differences in the quantity or composition of the wastes. The Agency does not believe that the list of chemicals in §261.33 present many opportunities for fundamental differences because they are essentially pure chemicals whose toxicity, concentration of toxic species, persistence, degradation potential and bioaccumulation potential are fairly well defined. Spill residues of these materials might vary in concentration, of course. This fact led the Agency to establish larger quantity cutoffs for spill residues of the acutely

hazardous materials listed in §261.33(e). Delisting procedures are not an appropriate manner of handling spill residues and debris because they generally present unique, rather than recurring, situations.

With respect to those species listed in §261.33(e), the chemical substances are acutely toxic or otherwise acutely hazardous chemicals which pose a substantial hazard in even very small quantities (see discussion in following section). Hence, variable quantities is not a fundamentally different factor for these wastes. As such, the Agency believes that any difficulties the generator has with those commercial products listed in §261.33 should and can reasonably be considered and resolved in the rulemaking process, such that the delisting procedures set out in §260.22 are not amenable for these types of wastes.

RECONSIDERATION OF THE PROPOSED RULES

Criteria for Listing

As discussed in the Background Document covering the criteria for listing hazardous waste and in response to the overall criticism by commenters of the proposed criterion for listing hazardous waste in §250.12(b)(2) of the Proposed Rules, the Agency has expanded and added considerable specificity to the criteria for listing hazardous waste in §261.11 of the Final Rules. One of the final criteria established (§261.11(a)(2)), enables the Agency to list acutely toxic or otherwise acutely hazardous wastes in Subpart D and designate these wastes as Acute Hazardous Wastes (having a Hazard Code of H). This criterion enables the Agency to list a hazardous waste because it has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in seriously irreversible, or incapacitating reversible, illness. This criterion was established, in response to commenters who suggested the need for a specific criterion for listing the substances, principally to define the basis that the Agency used in listing in the Proposed Rules the wastes and

the related chemicals discussed in this document.* Accordingly, this change in the final criteria for listing establishes an explicit basis for the listing of hazardous waste in §261.33(e).

The chemical substances listed in §261.33(f) do not meet the criteria for listing as an acutely hazardous waste but rather meet the criterion for listing, either because it satisfies §261.11(a)(1), exhibiting identified characteristics, or §261.11(a)(3), satisfying the toxic criterion. This latter criterion directs the Administrator to consider a list of factors to determine whether a waste containing toxic constituents listed in Appendix VIII is hazardous. Several of these factors are largely irrelevant in examining chemical substances in their pure form because the constituent in this case is the waste.

Changes in the Listing of Chemicals

In response to comments, the lists of chemicals proposed as Appendices III, IV, V and XII have been combined and simplified. Section 261.33(e) is a listing of commercial chemical products or manufacturing chemical intermediates which because they pose a severe acute hazard in small quantities, must be managed as a hazardous waste in quantities at which most hazardous waste is exempted. Section 261.33(f) consists of hazardous substances for which the §261.5(a) and (b) small quantity exclusion limit is believed to be adequate to protect public health and the environment.

* However, this criterion also may be used by the Agency to list hazardous wastes in §§261.31 and 261.32.

In addition, the Agency has substantially modified the final list of chemicals. First, it has listed only commercial chemical products or manufacturing chemical intermediates, chemicals that are not normally discarded. The reason for this is that §261.33 is exclusively designed to regulate these materials in the event they are discarded or intended to be discarded, are discarded as off-specification materials, are discarded as residuals in containers or inner liners of containers or are spilled. Where the Agency's interest in a chemical is because it is a hazardous constituent of a solid waste, the Agency will list the wastes or classes of wastes that typically or frequently contain such chemicals in §§261.31 and 261.32*. The principal effect of this approach has been to eliminate, as a class, the chemicals listed in Appendix V which derived from a list of toxic chemicals that are typically found in industrial wastewaters, or as constituents of wastes.

The second major change has been to make the listing of chemicals under §261.33 of the Final Rules comport to the listing criterion of §261.11(a)(2) and (a)(3) i.e., those wastes which present an acute hazard or present a hazard to human health if improperly managed. Commercial chemical products or manufacturing chemical intermediates are not normally discarded. However the Agency is concerned with controlling those chemicals which when discarded, no matter how infrequently, could pose a potential hazard. The Agency,

* Hazardous compounds that are a concern because they are constituents of solid wastes are listed in Appendix VIII and are used under §261.11(a)(3) to list such wastes as hazardous wastes.

in this initial promulgation, therefore, is limiting this list of chemicals to those which could present an hazard only to human health. Accordingly, under §261.33(e) only commercial chemical products or manufacturing chemical intermediates that have been found to be fatal to humans in low doses or, in the absence of data on human toxicity, have been shown in studies to have an oral LD50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD50 toxicity (rabbit) of less than 200 milligrams per kilogram are listed in §261.33(e). This change has had the effect of removing the following groups from the proposed list: the ORM-A materials listed in Appendix IV of the Proposed Rules, the cancelled and RPAR review pesticides listed in Appendix III, and the known or suspected human carcinogens listed in Appendix XII of the Supplemental Proposed Rules.* Further, under §261.33(f) only those commercial chemical products or manufacturing chemical intermediates which may present a potential hazard to human health, if improperly managed and for which the Agency has sufficient data to make a determination are listed. Each chemical was individually reviewed to determine whether it met the acutely hazardous criterion of §261.11(a)(2), the toxic criterion of §261.11(a)(3), or met the identified characteristics of hazardous waste.

* This change has not removed the Poison A and Poison B materials listed in Appendix IV because these are substances that have an LD50 or LC50 toxicity that meets the criterion for listing.

In summary, the combined effect of the two changes described has been to convert the original list of about 300 chemicals listed in Appendices III, IV, V and XII of the Proposed Rules to 122 chemicals in §261.33(e) and 239 chemicals in §261.33(f). Several of the substances in the proposed rules, for which data was lacking, are currently undergoing review to determine whether listing on either §261.33(e) or §261.33 (f) is appropriate. Appendix A to this document provides a tabular display of these changes.

Rationale for Selecting Acutely Hazardous Criteria

The chemicals on the promulgated list under §261.33(e) are listed because of one or more of the following criteria:

1. acute oral toxicity
2. acute inhalation toxicity
3. acute dermal toxicity
4. extreme reactivity (explosivity)
5. capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness*

Chemicals listed for acute oral toxicity have been found to either be fatal to humans upon ingestion of ≤ 100 mg/kg or to have an oral LD50 toxicity to rats of less than 50 milligrams per kilogram. Chemicals that have these levels of toxicity are extremely powerful poisons. For example, ingestion of less than

*This criterion was not used in listing the commercial chemical products or manufacturing chemical intermediates in Section 261.33(e), and therefore will not be further discussed in this document.

a teaspoonful of these chemicals would be fatal to an adult*. Additionally, lesser amounts can be expected to cause illness or even death to children and to more sensitive members of the population. As can be readily surmised, indiscriminate disposal of such chemicals could be highly dangerous. Any number of injury scenarios could result; e.g., accidental contact and ingestion by children or pets (not unlike situations at Love Canal); contamination of worker's clothing and resulting ingestion of small quantities rubbed off the clothing; and inadvertent contamination of foods or drinking water, particularly from residuals in containers or from spills. Because of the acute toxicity of these chemicals, the Agency has concluded that they very definitely meet the listing criteria of §261.11(a)(2) and also §261.11(a)(3).

The acute inhalation toxicity is based on an inhalation LC50 of less than 2 milligrams per liter. Chemicals having these levels of toxicity also are extremely effective poisons. For example, less than 0.2 ounces of such a material are sufficient to lethally contaminate the air of an average size (12' by 12' by 8') room. Indiscriminate disposal of such chemicals could result in any number of dangerous scenarios; e.g., contamination of the air in refuse collection bins and trucks posing a danger to workmen; subsurface migration of such chemicals into the basement of homes, resulting in injury to the inhabitants, such as occurred at Love Canal;

*Based on toxicity to rats and humans being the same. The human is considered to generally be more sensitive than the rat due to its higher surface to weight ratio. Using a surface-area weight relationship for the two species, the rat is expected to generally be only one-sixth as sensitive as the adult human.

contamination of the air of enclosed structures when salvaged containers having residues of these chemicals are opened; and injurious human exposure to these chemicals in certain spill or spill clean-up situations. Because of the acute toxicity of these chemicals, the Agency has concluded that they also, very definitely, meet the listing criteria of §261.11(a)(2) and also §261.11(a)(3).

The acute dermal toxicity is based on a skin absorption LD50 toxicity of less than 200 milligrams per kilogram. Like those above, chemicals having these levels of toxicity are extremely poisonous and both indiscriminate and uncontrolled discriminate disposal can pose injury scenarios similar to those described above. In fact, the dermal route of exposure is of major concern since, like inhalation, it can readily occur, as for example, as a result of contact of children and pets with the substance and contamination of worker's clothing. Accordingly, the Agency has concluded that these chemicals meet the listing criteria of §261.11(a)(2) and also §261.11(a)(3).

The Agency has used three sources of toxicological information in determining the LD50 and LC50 toxicities of chemicals. These are:

Research and Development Compendium, Part I Materials Classification, Volume II Toxic & Corrosive Materials, 1976, U.S. Department of Transportation, Office of Hazardous Materials Operations, Materials Transportation Bureau, Washington, DC 20590.

Sax, N. Irving, Dangerous Properties of Industrial Materials, Fourth Edition, 1975, Van Nostrand Reinhold, New York, NY 10001.

Registry of Toxic Effects of Chemical Substances, Publication Number 78-104-B, September 1977, National Institute of Occupational Safety and Health, Cincinnati, OH 45226.

In using these references, the Agency has only used citations based on observed toxic effects in humans, rats, and rabbits.

The extreme reactivity (explosivity) effect is based on well known properties of the chemical. Three chemicals are listed in §261.33(e) for this reason. Each of these is well known as being explosive under standard temperatures and pressures. Mild shock is sufficient to cause an explosion and potentially result in severe injury or death to humans and other life forms. These three chemicals were not on the proposed list but would have been hazardous wastes under the proposed reactivity characteristic.

The chemicals listed in §261.33(e) are all commercial chemicals and chemical intermediates. The chemicals are listed in §261.33 by their IUPAC (International Union of Pure and Applied Chemistry), or in certain instances by their generic, name. In addition, for the convenience of those using these regulations, where known, one or more common trade names are given.

In preparing §261.33(e) the Agency examined the information available on each of the compounds proposed in Appendices III, IV, V and XII. Those compounds meeting the criteria for

inclusion on §261.33(e) are so listed. In addition, the Agency examined the NIOSH "Registry" to determine if there were any other compounds which met the criteria. Given these changes §261.33(e) has been promulgated as "interim final" rules and the Agency will be accepting comments on the appropriateness of these listings.

Listing of Containers

Section 261.33(c) of the Final Rules has been expanded to address the comments on triple rinsing. As now written, triple rinsing with a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate is the standard for Subtitle C regulations by which a container can be rendered non-hazardous. The limit for containers only applies to the acutely hazardous materials listed in §261.33(e) because the residue of these substances in containers may be lethal in such quantities. For the other hazardous materials listed in §261.33(f), the containers may not prove hazardous, and EPA lacks the data to take a general position on this. The regulation does not specify the type of solvent to be used in triple rinsing containers. Different solvents may cleanse chemical product containers with varying results, and it was impossible for EPA to require the use of a particular solvent for all containers. In this respect, this Rule is similar to the general disposal requirements for pesticide containers promulgated under FIFRA. (See 40 CFR §165.9(a)). In response to comments, EPA has increased the flexibility of the Rule by allowing a person to use alternative methods to decontaminate

a container, if the person can demonstrate that such methods achieve equivalent results. For example, government regulations may authorize a person to incinerate combustible containers under certain conditions, CF 40 CFR §165.9(a), or a manufacturer may recommend that such disposal be employed. Several commenters noted that certain paper containers could not be triple-rinsed. EPA did not, through these regulations, want to prevent people from using these disposal techniques. The Agency is aware that requiring "equivalent" decontamination procedures without specifying solvents or procedures provides, at best, a vague standard. The Agency believes that, in most cases, this rule, if interpreted sensibly, provides sufficient guidance to both the regulated community and Agency enforcement personnel. For most containers, the manufacturer will specify a particular solvent, or it will be assumed that water is the appropriate solvent. Unless the knowledge is already extant--e.g., through manufacturer recommendations--it would appear that most persons would triple-rinse with water or other dilution liquid rather than conduct tests to determine the equivalency of their procedures. Accordingly, EPA expects that this alternate procedure will not be widely used and that triple-rinsing will be the standard cleansing procedure.

Public comments on Part 250, Subpart D of the Proposed Rules raised questions about how the regulations should deal with inner liners of containers and containers from which the inner liners have been removed. The resulting reconsideration is reflected in §261.33(c) as well as in other parts of the regulation. Basically, inner liners from containers used to hold chemicals

listed in §261.33(e) are treated like containers and are hazardous wastes when discarded unless triple rinsed or equivalently decontaminated.* On the other hand, containers from which the inner liner has been removed need not be considered as a hazardous waste when discarded.

Listing of Spill Residues and Debris

As previously discussed and in response to comments, the final listing of spill clean-up residues and debris has been modified to clarify that only contaminated debris, including contaminated water and soil, is covered. Also, a provision has been added to limit this listing to aggregate amounts of clean-up residues and debris that exceed 100 kilograms (220 pounds). This de minimis quantity is based on the Agency's best judgment of an amount that will not overburden the Subtitle C hazardous waste management system, (including its implementation and enforcement) and, further, will not pose a significant risk to human health or the environment. Based on the Agency experience with the cleanup of spills, 100 kilograms--half a drum--for acutely hazardous wastes is a very small amount and would only apply to very small or very limited spills. Given the acute hazardousness of the chemicals listed in §261.33(e), the Agency does not believe this quantity is too low. In fact, there may be cases where lesser amounts pose substantial hazard. In such cases, the

* Typically, inner liners are not decontaminated and reused; they are removed from the container and discarded.

Agency believes it can rely on the discretion exercised by the trained personnel that typically respond to spills to require proper management of these lesser amounts.

De Minimis Quantity Cut-Off for Small Quantities of Acutely Hazardous Materials

As discussed in a separate Background Document, §261.5 of the Final Rules excludes (from Subtitle C regulation) hazardous wastes that are generated, treated or disposed of in quantities less than 1,000 kilograms (2,200 pounds) in any 30-day period by individual small quantity generators. The Final Rules further provide that this 1,000 kilogram exclusion eventually will be lowered to 100 kilograms (220 pounds) in any 30-day period. The Agency has concluded that, whereas this exclusion may be appropriate and justified as a general exclusion for the variety of hazardous wastes listed in Subpart D, it is not appropriate for the acutely toxic and hazardous wastes listed in §261.33(e). These quantity limits do apply to chemical products listed in §261.33(f). Consequently, §261.5(c) of the Final Rules provides lesser exclusion limits for the commercial products listed in §261.33(e).

For commercial chemical products, manufacturing chemical intermediates and off-specification species listed in §261.33(e), the de minimis quantity cut-off is one kilogram (2.2 pounds) in any calendar month, as provided in §261.5(c). Small quantity generators who discard more than one kilogram of these chemicals in any calendar month period must designate such chemicals as hazardous wastes and these must be managed as hazardous wastes by the generator and all other persons (transporters and owners or operators of off-site treatment, storage or disposal facilities). This quantity, in the Agency's best judgment, will reduce the risk to human health

and the environment, from the discarding of these wastes, to a very low level (the limit of only one kilogram is a stringent requirement for persons handling these products in the course of business). The Agency recognizes that lesser quantities of these chemicals can be hazardous. As indicated above, only a few ounces of these chemicals can be lethal or injurious. At the same time, the Agency recognizes the implementation and enforcement of small quantity requirements will be difficult. It will be difficult to inform all potential generators of the final requirements and it will be virtually impossible to monitor and police the discarding of small quantities. The Agency has balanced these two competing consequences and has concluded that the quantity selected is a reasonable compromise, particularly when it applies only to small quantity generators. These de minimis quantities do not apply to other generators who must manage all quantities of §261.33 commercial products as hazardous wastes.

For containers (except the inner liner of containers that have been removed) that are not triple rinsed or otherwise decontaminated, §261.5(c)(3) provides that the de minimis quantity threshold is a container size of 20 liters (5.3 gallons). Persons who discard larger containers must manage them as hazardous waste. The Agency chose 20 liters because it believed that there was a larger probability that such containers, when discarded, might be salvaged for use as trash cans, barbecue grills, storage containers and other

items where human exposure and consequential injury could occur. It reasoned that there would be a lesser probability of salvaging of small containers because there is less utility for such containers.

For inner liners of containers which have been removed and are discarded; §261.5(c)(4) provides a de minimis quantity cut-off of 10 kilograms (22 pounds). The same reasoning as used for the pure chemicals and off-specification materials was used except that adjustment was made for the assumed weight of the liner. Again, the decision was based on the Agency's best estimate about the probable risk of injury.

For the clean-up residues and debris from spills, §261.5(c)(5) provides a 100 kilogram (2,200 pound) de minimis quantity cut-off (per spill event). The rationale for this choice is discussed previously in this document.

Bibliography

1. U.S. House of Representatives, Report 94-1491, p. 22.
2. Decontamination of Non-Combustible Agricultural Pesticide Containers by Removal of Emulsifiable Parathion by Dennis P. H. Hsich, Thomas E. Archer, Douglas M. Munnecke, and Francis E. McGowan, Environmental Science & Technology, 6:9, September 1972, p. 826
3. Detoxication of Metal Drums from Emulsifiable Concentrate Formulations of Parathion, by E.E. Archer and D.P.H. Hsich. Pesticide Science, 4, 69-76, 1973.
4. Pesticide Contgainer Decontamination by Aqueous Wash Procedures, by J. G. Lamberton, P.A. Thomson, J.M. Witt, and M. L. Deinzer Bulletin of Environmental Contamination and Toxicology, 16:5, November 1976.
5. "Drum Rinse Efficiency and Drum Disposal," a paper presented by the U.S. Air Force at the Herbicide Orange disposal (public hearing on April 7, 1977).

APPENDIX A

BASIS FOR INCLUSION ON \$261.33(e)

Source of Toxicity Data

- (1) Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH 45226, September 1977.
- (2) Research and Development Compendium, Part 1 Materials Classification, Volume II Toxic and Corrosive Materials, U.S. Department of Transportation, Washington, DC 20590, April 1976.
- (3) Dangerous Properties of Industrial Materials, Fifth Edition, N. Irving Sax, Van Nostrand Reinhold, New York, NY 10020

Final Disposition and Reason for Dropping from 261.33(e) or Appendix VIII

- X The substance has been included under the indicated section of the regulation.
- C Material is under consideration for possible future listing in 261.33(e) or Appendix VIII
- NS Description of material is not specific enough to permit a generator of solid waste to unambiguously identify a given industrial material as one of the substances included in the listing.
- F Available toxicological information indicates that the substance does not meet the criteria for listing under Appendix VIII or 261.33(e).

Reason for Listing

- Oral Material has been shown to be fatal to humans with an oral dose of ≤ 100 mg/kg or has an oral rat LD₅₀ of ≤ 50 mg/kg.
- Inhalation Material has been shown to be fatal to humans exposed to concentrations of ≤ 2 mg/l or the material has an inhalation rat LC₅₀ of ≤ 2 mg/l/hour.
- Dermal Material has been shown to be fatal to humans exposed with a dermal exposure of ≤ 200 mg/kg or to has a dermal rabbit LD₅₀ of ≤ 200 mg/kg.
- Explosive Material is either a Class A or Forbidden Explosive as defined by the U.S. Department of Transportation, Washington, DC 20590.

Commercial Product

- T Toxic Substances Control Act Chemical Substances Inventory, May 1979, U.S. Environmental Protection Agency, Washington, DC 20460
- S Dangerous Properties of Industrial Materials, Fifth Edition, N. Irving Sax, Van Nostrand Reinhold, New York, NY 10020.
- P Designates a material registered with the U.S. Environmental Protection Agency for use as a pesticide.
- FDA Designates a material approved for use as a drug by the U.S. Food and Drug Administration.
- D Designates a material listed by name in 49 CFR 172.101, "Table of Hazardous Materials".
- USAF United States Air Force military product designation

APPENDIX III OF PROPOSED REGULATION

Name	Hazardous Waste No.	Final Disposition		Toxicity Data(1)					Commercial Product (2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII dropped (4)	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)					
Aramite			X	Rat 3900 (N)							
BAAM			C	Rat 811 (N)							
Benomyl			C		Rat 10/hr (N)						
Chloranil	U039		C	Rat 4000 (N)							
Chlorobenzilate	U066		X	Rat 700 (N)							
DBCP	U062		X	Rat 2450 (N)							
Diallate	P044		X	Rat 395 (N)							
Dimethoate		X	X	Human 30 (N)					P	Oral	
EBDC	U143		C								
Kepone			X	Rat 95 (N)							

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product (2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Maleic hydrazide	U148		X		Rat 3800 (N)						
Mirex			C		Rat 306 (S)						
Monuron			C		Rat 1480 (N)						
OMPA	P085	X	X		Rat 5 (N)				P	Oral	
PCNB	U184		X		Rat 1650 (N)						
Phenarazine Chloride			C								
Polychlorinated terpenyls			X								
Pronamide	U193		X								
Strobane			C		Rat 200 (N)						
2,4,5-Trichlorophenoxy-acetic acid (2,4,5-T)	U230		X		Rat 300 (N)						
Thiophonate methyl			C								

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Trysben					Rat 650 (N)						
	P058	X	X		Rat 0.22 (N)				P	Oral	
1080											
1081	P057	X	X		Rat 5.75 (N)				P	Oral	

APPENDIX IV OF PROPOSED REGULATIONS

Name	Hazardous Waste No.	Final Disposition		Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)			
Acetaldehyde ammonia	P069			X						F
Acetone cyanohydrin		X	X		Rat 17 (N)			T	Oral	
Acetone tetrabromide				X						F
Allethrin			C		Rat 920 (N)					
Ammonium hydrosulfide solution				X						F
Ammonium polysulfide solution				X						F
Aniline (aniline oil)	U012		C		Rat 440 (N)					
Antimony lactate			X							
Antimony potassium tartrate			X		Rat 115 (N)					
Antimony sulfide			X							

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Barium cyanide	P013	X	X		Rat 118 (N)	see cyanide			D	Inhalation	
Beryllium compound	P015	X	X			Toxic to Humans (S)				Inhalation	
Bone oil				X							F
Bromoacetone	P017	X	X			Human 5.7/10min (D)			D	Inhalation	
Brucine	P018	X	X		Rat 1 (N)				T	Oral	
Calcium cyanide(1)	P021	X	X		Rat 39 (N)				T	Oral	
Camphene				X							F
Carbaryl	U189		C		Rat 400 (N)						
Carbolic acid (phenol)	U209		X		Rat 414 (N)						
Carbon tetrachloride			X		Rat 2800 (N)						

1. Includes solid and mixtures of Calcium cyanide

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Chemical ammunition nonexplosive (containing Poison B)				X							NS
Chemical ammunition nonexplosive (containing poison A)				X							NS
Chloroform	U045		X		Rat 800 (N)						
4-Chloro-o-toluidine hydrochloride			C					T			
Chloropicrin (2)			C		Rat 250 (N)						
Cocculus(fishberry)			C								
Weed or tree killing compound				X							NS
Copper cyanide	P029	X	X		see cyanide					Inhalation	
Cyanide	P030	X	X		Toxic to Humans (S)					Inhalation	

2. Includes chloropicrin mixtures (i.e., absorbed, Methyl chloride mixtures, liquid, mixture containing no compressed gas or poison A liquid)

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)					Reason on Dropped(4)	
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)	Commercial Product(2)	Reason on 261.33e(3)		
Cyanogen bromide	P032	X	X			Human 0.92/10min (D)		D	Inhalation		
Cyanogen chloride	P033	X	X			Rat 1.18/30min (D)		D	Inhalation		
DDT	U061		X		Rat 113 (N)						
Diazinon			C		Rat 76 (N)						
Dibromodifluoromethane	U070		C								
o-Dichlorobenzene	U072		X		Rat 500 (N)						
p-Dichlorobenzene	U075		X		Rat 500 (N)						
Dichlorodifluoro-ethylene	U080		X								
Dichloromethane	P035	X	X		Rat 945 (N)						
2,4-Dichlorophenoxy acetic acid		X	X		Human 80 (N)			P	Oral		

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Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Dieldrin	P037	X	X		Rat 46 (N)			P	Oral		
Dinitrobenzene			X								
Dinitrochlorobenzene			C		Rat 1070 (D)						
Dinitrocyclohexyl phenol [2-cyclohexyl 4,6-dinitrophenol]	P034	X	X		Human LDLo 50 (N)			D	Oral		
Dinitrophenol	P020		X		Rat 100 (D)						
Disinfectant (3)				X						NS	
Drugs n.o.s. (3)				X						NS	
Ethylene chlorohydrin			C		Rat 58 (N)						
Ethylene dibromide (1,2-Dibromoethane)	U067		X		Rat 140 (N)						
Ferrophosphorus				X						NS	

3. liquid and solid

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Flue dust	U123			X							NS
Formaldehyde			X		Rat 800 (N)						
Germane			C								
Grenade without bursting charge poison A				X							NS
Grenade without bursting charge poison B				X							NS
Hexachloroethane	U132		X								
Hexaethyltetra-phosphate (4)	P062	X	X		Rat 5 (D)			D	Oral		
Hydrocyanic acid	P063	X	X		see cyanide			T	Inhalation		
Insecticide				X							NS

4. Including mixtures containing hexaethyl tetraphosphate; dry and liquid

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product (2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LD50 (mg/l)	Dermal LD50 (mg/kg)				
London blue			C								
Malathion			C		Rat 1401 (N)						
Medicines n.o.s.(5)				X							NS
Mercaptan			X								
	U029										
Methyl bromide (6)			X			Rat 23 (D)					
	U224										
Methyl chloroform			X		Rat 14300 (N)						
	P071										
Methyl parathion (7)		X	X		Rat 9 (N)	Rat 1.2 (N)			P	Oral Inhalation	
Mipafox			C								
Motor fuel antiknock compound				X							NS

5. Liquid and solid
6. Including methyl bromide mixtures
7. Includes methyl parathion containing mixtures (i.e., methyl parathion mixture, dry, methyl parathion, liquid mixture, containing over 25% methyl parathion)

Name		Hazardous Waste No.	Final Disposition			Toxicity Data(1)					Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
			.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)					
Napthalene		U166		X		Rat 1780 (N)							
Nickel cyanide		P074	X	X		see cyanide					Inhalation		
Nicotine and its salts		P075	X	X		Human 1 (D) (est)		Rabbit 50 (N)			Oral Dermal		
Nitric oxide		P076	X	X			Toxic to Humans (S)			D	Inhalation		
p-Nitroaniline		P077	X	X		Human LDLo 5 (S)				T	Oral		
Nitrobenzene		U170		X		Rat 640 (N)							
o-Nitrochlorobenzene				X		Rat 288 (N)							
m-Nitrochlorobenzene				X		Mouse 390 (N)							
p-Nitrochlorobenzene				X		Rat 420 (N)							
Nitrogen dioxide		P078	X	X		see nitric oxide				D	Inhalation		
Nitrogen peroxide		P079	X	X		see nitric oxide				D	Inhalation		

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)						
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)	Commercial Product(2)	Reason on 261.33e(3)	Reason	Dropped (4)
Nitrogen tetroxide	P080	X	X		See nitric oxide			D	Inhalation		
Nitroxylol			C		Rat 2440 (N)						
Organic phosphate (generic)				X						NS	
Parathion and mixture	P089	X	X		Human LDLo .24 (S)		Rabbit 40 (S)	P	Dermal Oral		
Perchloro-methyl-mercaptan			C		Rat 83 (N)						
Perfluoro-2-butene			X								
Phencapton			C		Rat 61 (N)						
Phenyl dichloroarsine	P091	X	X				Rabbit 0.5 (N)	T	Dermal		
m-,p-Phenylenediamine			C								
Phosgene (diphosgene)	P095	X	X			Human 3 (N)		D	Inhalation		

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Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)					Commercial Product (2)	Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)					
Phosphine	P096	X	X			Rat 0.11/4hr (N)				T	Inhalation	
Poisonous liquid, n.o.s., or poison B liquid, n.o.s.				X								NS
Poisonous liquid or gas n.o.s.				X								NS
Poisonous solid, n.o.s. or poison B solid, n.o.s.				X								NS
Potassium cyanide	P098	X	X		see cyanide					D	Inhalation	
Potassium cyanide, solution	P098	X	X		see cyanide					D	Inhalation	
Silver cyanide	P104	X	X		see cyanide					D	Inhalation	
Sodium azide	P105	X	X							T	Explosive	
Sodium cyanide	P106	X	X		see cyanide					D	Inhalation	
Sodium cyanide, solution	P106	X	X		see cyanide					D	Inhalation	

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Sodium dichromate			C								
Sodium penta-chlorophenate			C		Rat 210 (N)						
Strontium arsenite			C								
Strontium and its salts	P107	X	X		Rat 16 (N)					Oral	
Tetrachloroethane	U205		X								
Tetrachloroethylene (Perchloroethylene)	U208		C		Mouse 8850 (N)						
Tetraethyldithiopyrophosphate	P109	X	X		Rat 5 (D)				D	Oral	
Tetraethyl lead	P110	X	X			Rat 0.58/hr(D)			T	Inhalation	
Tetraethylpyrophosphate	P111	X	X		Rat 1.2 (D)				D	Oral	
Tetramethyl methylene diamine			C								

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Thallium salt, solid n.o.s.	P115	X	X		Toxic to Humans (S)			D			
Thallium sulfate		X	X		Rat 15.8 (S)			T	Oral		
Thiophosgene	P117		X		Rat 929 (N)						
Thiuram (Thiram)		X	X		Human LDLo 50 (N)			D	Oral		
Toluenediamine	U219		C								
Trichloroethylene	U226		X		Rat 4920 (N)						
Zinc cyanide	P121	X	X		see cyanide			D			

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APPENDIX V OF PROPOSED REGULATIONS

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Acenaphthene	8801		X								
	8802		X								
Acenaphthalene	P003	X	X		Rat 46 (N)	Rat .08/4hr (D)			T	Oral Inhalation	
Acrolein	U009		X		Rat 82 (N)						
Acrylonitrile	P004	X	X		Rat 67 (N)		Rabbit LDLo 15 (N)		P	Dermal	
Aldrin			X								
Anthracene			X								
alpha-BHC			X		Rat 500 (N)						
beta-BHC			X		Rat 6000 (N)						
delta-BHC			X		Rat 88 (N)						
Benzene	U019		X		Rat 3800 (N)						

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Benzidine	U021		X		Rat 309 (N)						
Benzo(a)anthracene (1,2 benzanthracene)	U018		X								
Benzo(c)fluoranthene (3,4-benzofluoranthene)			C								
Benzo(k)fluoranthene (11,12,benzofluoranthene)			X								
Benzo(g,h,i)perylene (1,12-Benzoperylene)			X								
Benzo(a)pyrene (3,4-benzopyrene)	U022		X								
Bis(2-chloroethoxy) methane	U024		X								
Bis(2-chloroethyl) ether	8124		X		Rat 75 (N)						
Bis(2-chloroisopropyl) ether	U025		X		Rat 240 (N)						
Bis(chloromethyl) ether	P016	X	X		Rat 210 (N)	Rat 0.07/7hr (N)			T	Inhalation	

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Bis(2-ethylhexyl)	U028		X		Rat 31000(S)						
Bromoform (Tribromomethane)			X								
4-Bromophenyl phenyl ether	U030		X								
Butyl benzyl phthalate	U032		X								
Chlordane (technical mixtures and metabolites)	U037		X		Rat 283 (N)						
Chlorobenzene	U038		X		Rat 2910 (N)						
Chlorodibromomethane	U041		X								
Chloroethane			X								
2-Chloroethyl vinyl ether	U043		X		Rat 250 (N)						
p-Chloro-m-cresol	U040		X								

Name	Hazardous Waste No.	Final Disposition			Toxicity Data (1)				Commercial Product (2)	Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
2-Chloronaphthalene	U048		X		Rat 2078 (N)						
2-Chlorophenol	U049		X		Rat 670 (S)						
4-Chlorophenyl phenyl ether			X								
Chrysene	U050		X								
Dibenzo(a,h)anthracene (1,2,5,6-dibenzanthracene)	U063		X								
Di-n-butyl phthalate	U069		X								
1,3-Dichlorobenzene	U071		X								
3,3'-Dichlorobenzidine	U073		X								
Dichlorobromomethane			X								
Dichlorodifluoromethane	U075		X								
1,1-Dichloroethane	U076		X		Rat 725 (N)						

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
1,2-Dichloroethane	U077		X		Rat 680 (N)						
1,1-Dichloroethylene	U078		X		Rat 725 (N)						
1,2-trans-Dichloroethylene	U079		X								
2,4-Dichlorophenol	U083		X		Rat 580 (N)						
1,2-Dichloropropane			X		Rat 1900 (N)						
1,2-Dichloropropylene (1,2-Dichloropropene)	U088		C								
Diethyl phthalate			X								
Dimethyl phthalate	U101		X		Rat 6900 (S)						
2,4-Dimethylphenol	P047		C								
4,6-Dinitro-o-cresol	U105	X	X		Rat 33 (D)				D	Oral	
2,4-Dinitrotoluene			X		Rat 707 (N)						

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
2,6-Dinitrotoluene	U106		X								
1,2-Diphenylhydrazine	U109		X								
Endosulfan and metabolites(8)	P050	X	X		Rat 18 (N)		Rabbit 167 (N)		P	Dermal	
Endrin aldehyde			X								
Ethylbenzene	U114		X		Rat 3500 (N)						
Fluoranthene	U121		X		Rat 2000 (N)						
Fluorine	P056	X	X			Rat 1.85/hr(N)			T	Inhalation	
Heptachlor	P059	X	X		Rat 40 (N)				P	Oral	
Heptachlor epoxide			X		Rat 62 (N)						
Hexachlorobenzene	U128		X		Rat 3500 (N)						
Hexachlorobutadiene	U129		X		Rat 90 (N)						

8. includes alpha and beta isomers and sulfate salt

Name	Hazardous Waste No.	Final Disposition		Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Hexachlorocyclopentadiene	U131	X		Rat 280 (S)						
Indeno(1,2,3-c,d) pyrene [(,3-o-phenylene)pyrene]	U138	X								
Isophorone		X		Rat 2330 (N)						
	U045	X								
Methyl chloride				Rat 2828 (D)						
2-Nitrophenol	U171	X		Rat 350 (N)						
4-Nitrophenol		X		Rat 480 (S)						
N-Nitrosodl-n-propylamine	P082	X		Rat 26 (S)	Rat 0.78/4hr (S)			T	Inhalation Oral	
N-Nitrosodimethylamine	P083	X		Rat 26 (N)	Rat 0.78/4hr (N)			T	Inhalation Oral	
N-Nitrosodiphenylamine	U107	X								
Di-n-octyl phthalate		X		Rat 4250 (N)						
PCB-1242(Arochlor 1242)		X								

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
PCB-1254(Arochlor 1254)			X		Rat 4250 (N)						
PCB-1221(Arochlor 1221)			X		Rat 3980 (N)						
PCB-1232(Arochlor 1232)			X		Rat 4470 (N)						
PCB-1248(Arochlor 1248)			X		Rat 11000(N)						
PCB-1260(Arochlor 1260)			X		Rat 1315 (N)						
PCB-1016(Arochlor 1016)			X								
Pentachlorophenol	P090	X	X		Rat 50 (N)			T	Oral		
Phenathrene			X								
Pyrene			X								
2,3,7,8-Tetrachlorodibenzo- p-dioxin (TCDD)			X		Rat 0.114(N)						
1,2,4-Trichlorobenzene			X		Rat 756 (N)						

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)			Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)			
1,1,1-Trichloroethane	U224				Rat 14300(N)					
			X							
1,1,2-Trichloroethane	U225				Rat 1140 (N)					
			X							
Trichlorofluoromethane	U227									
			X							
2,4,6-Trichlorophenol	U229				Rat 820 (S)					
			X							
Toluene	U218				Rat 500 (N)					
			X							
Vinyl chloride (chloro-ethylene)	U044				Rat 500 (N)					
			X							

APPENDIX XII OF PROPOSED REGULATIONS

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Aflatoxins			C								
4-Aminobiphenyl			X		Rat 500 (N)						
Auramine	U014		X								
Benz(c)acridine			X								
Benzo(e)pyrene			C								
N,N-Bis(2-chloroethyl)-2-naphthylamine	U026		X								
Chloromethyl methyl ether	U047		X		Rat 816 (N)	Rat 55/7hr (N)			T		
Cyclophosphamide	U058	C	X		Rat 94 (N)						
Di benz(a,h)acridine			X								
Di benz(a,j)acridine			X								
7h-Dibenzo(c,g)carbozale			X								

Name	Hazardous Waste No.	Final Disposition		Toxicity Data(1)				Reason on 261.33e(3)	Reason Dropped(4)
		.33e	VIII dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)	Commercial Product(2)		
Dibenzo(a,h)pyrene	U064		X						
Dibenzo(a,i)pyrene			X						
Diethylstilbestrol	U151		X						
Melphalan	U169		X						
2-Naphthylamine	U180		X	Rat 727 (S)					
N-Nitrosopiperidine	U173		X	Rat 200 (N)					
N-Nitroso-di-n-butylamine	U174		X	Rat 1200 (N)					
N-Nitrosodiethanolamine	U175		X						
N-Nitrosodiethylamine	U177		X						
N-Nitroso-n-ethylurea			X						

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
N-Nitrosomethylvinylamine	P084	X	X		Rat 24 (N)			T	Oral		
N-Nitroso-n-methylurea	U179		X		Rat 180 (N)						
N-Nitrosomorpholine			X		Rat 282 (N)						
N-Nitrosomornicotine	U181		X		Rat 9000 (S)						
N-Nitrosopyrrolidine			C		Rat 5000 (N)						
N-Nitrososarcosine											
Oxymethenolone	U188		X								
Phenacetin			X		Rat 1650 (N)						
Phenytoin				X						F	
Polyvinyl pyrrolidine	U204			X						F	
Streptozotocin			X		Mouse 264 (N)						

ADDITIONS TO \$261.33(e) NOT PREVIOUSLY PROPOSED

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)				
Acetato-o-phenyl mercury	P092	X	X		Rat 30 (N)				T	Inhalation	
3-alpha-Acetonylbenzyl-4-hydroxycoumarin	P001	X	X		Rat 3 (N)				T	Oral	
1-Acetyl-2-thiourea	P002	X	X		Rat 50 (N)				USAF EK-4890	Oral	
Allyl alcohol	P005	X	X		Rat 6.4 (N)	Rat 1.7/4hr			T	Inhalation Oral	
Aluminum phosphide	P006	X	X		Human 20 (N)				T	Oral	
5-Aminomethyl-3-iso-xazolo	P007	X	X		Rat 45 (N)				T	Oral	
4-Aminopyridine (9)	P008	X	X		Rat 21 (N)				T	Oral	
Ammonium picrate	P009	X	X						T	Explosive	
Arsenic acid	P010	X	X		Human LCLo 5 (N)				S	Oral	
Arsenic pentoxide	P011	X	X		Human LCLo 5 (N)				D	Oral	
Arsenic trioxide	P012	X	X		Human LCLo 5 (N)				D	Oral	

9 Includes organic and inorganic compounds

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)	Commercial Product(2)		
Benzenethiol	P014	X	X		Rat 46 (N)	Rat 33/4hr (N)		T	Inhalation Oral	
2-Butanone peroxide	P019	X	X		Rat 1 (N)			T	Oral	
2-sec-Butyl-4,6-dinitro-phenol	P020	X	X		Rat 25 (N)	Rat 2/4hr (N)		T	Oral Inhalation	
Carbon disulfide	P022	X	X		Human LDLo 14 (S)			D	Oral	
Chloroacetaldehyde	P023	X	X		Rat 23 (N)			T	Oral	
p-Chloroaniline	P024	X	X			Human LCLo 0.44 (S)		S	Inhalation	
1-(p-Chlorobenzoyl)-5-methoxy-2-methyl-indole-3-acetic acid	P025	X	X		Rat 12 (N)			T	Oral	
1-(o-Chlorophenyl)thiourea	P026	X	X		Rat 4.6 (N)			T	Oral	
3-Chloropropionitrile	P027	X	X		Rat 50 (N)			T	Oral	
alpha-Chlorotoluene	P028	X	X		Rat 1231 (N)	Human LCLo. 16/M (N)		D	Inhalation	
Cyanogen	P031	X	X			Human LCLo. 16(N)		D	Inhalation	

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)	Commercial Product(2)		
Diethylarsine	P038	X	X			Human LCLo .03 (S)		S	Inhalation	
2-Diethyl-o-pyrazinyl-phosphorothioate	P040	X	X		Rat 3.5 (N)			T	Oral	
0,0-Diethyl phosphoric acid 0-p-nitro-phenyl ester	P041	X	X		Rat 1.8 (N)			P	Oral	
3,4-Dihydroxy-alpha-(methylamino)methyl-benzyl alcohol(-)	P042	C	C					T		
Di-isopropylfluoro-phosphate	P043	X	X		Rat 6 (S)			S	Oral	
3,3-Dimethyl-1-(methylthio)-2-butanone-0-(methyl-amino carbonyl) oxamine	P045	X	X		Rat 8.5 (N)			P	Oral	
alpha,alpha-Dimethylphen-ethylamine	P046	X	X		Human LDLo 50 (N)			NIOSH "Dye"	Oral	
2,4-Dinitrophenol	P048	X	X		Rat 30 (N)			T	Oral	
Disulfoton	P039	X	X		Human LDLo 5 (N)			P	Oral	

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)					Reason on		Reason
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LC50 (mg/l)	Dermal LD50 (mg/kg)	Commercial Product(2)	261.33e(3)			
Dithiobiuret	P049	X	X		Rat 5 (N)			T		Oral		
	P051	X	X		Rat 3 (N)		Rabbit LDLo 94 (N)	P		Oral Dermal		
Endrin and metabolites	P052	X	X		Rat 39 (S)			S		Oral		
Ethyl cyanide	P053	X	X		Rat 0.8(S)			FDA		Oral		
Ethylene diamine	P054	X	X		Rat 15 (N)			T		Oral		
Ethylenimine	P055	X	X		see cyanide			T		Inhalation		
Ferric cyanide	P060	X	X									
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-, endo-, endo-1,4:5,8-dimethanonaphthalene	P061	X	X		Rat 7 (N)			T		Oral		
Hexachloropropene	P064	X	X		Rat 71 (N)	Rat .05/4hr(N)		T		Inhalation		
Isocyanic acid, methyl ester	P066	X	X		Rat 17 (N)	Rat 0.77 (N)		P		Oral Inhalation		
Methomyl	P067	X	X		Rat 19 (S)			(S)		Oral		
2-Methylaziridine	P068	X	X		Rat 33 (N)	Rat .74/4hr(N)		T		Oral Inhalation		
Methyl hydrazine												

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LD50 (mg/l)	Dermal LD50 (mg/kg)				
2-Methyl-2-(methylthio)-O-(methylcarbamoyl) propionaldehyde oxime	P070	X	X		Rat 1 (N)				T	Oral	
2-Methylacetonitrile	P069	X	X		Rat 17 (N)	Rat (N) 0.63/4hr			T	Oral	
Mercury fulminate	P065	X	X						T	Explosive	
1-Naphthyl-2-thiourea	P072	X	X		Rat 6 (N)				T	Oral	
Nickel carbonyl	P073	X	X			Rat .35/30min (N)			T	Inhalation	
Nitroglycerine	P081	X	X		Human LDLo 5 (N)				T	Oral Explosive	
Oley alcohol condensed with 2 moles of ethylene oxide	P086	X	X		Rat 25.8 (N)				T	Oral	
Osmium tetroxide	P087	X	X		Rat 14 (N)				T	Oral	
7-Oxabicyclo (2,2,1) heptane-2,3-di-carboxylic acid	P088	X	X		Rat 38 (N)				T	Oral	
N-Phenylthiourea	P093	X	X		Rat 3 (N)				T	Oral	

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg) Human LDLo 5 (N)	Inhalation LD50 (mg/l)	Dermal LD50 (mg/kg)	Commercial Product(2)		
Phorate	P094	X	X					P	Oral	
Phosphorothioic acid, O,O-dimethyl ester, O-ester with p-hydroxy N,N-dimethylbenzenesulfonamide	P097				Rat 35 (N)			T	Oral	
Potassium silver cyanide	P099	X	X		Rat 21 (N)			T	Oral	
1,2-Propanediol	P100	X	X		Rat 21 (N)			NIOSH	Oral	
2-Propyn-1-ol	P102	X	X		Rat 0.07 (N)			T	Oral Inhalation	
Selenourea	P103	X	X		Rat 50 (N)			T	Oral	
Strychnine	P108	X	X		Human LDLo 30 (N)			P	Oral	
Tetranitromethane	P112	X	X					(S)	Explosive	
Thallic oxide	P113	X	X		Rat 22 (N)			T	Oral	
Thiosemicarbazide	P116	X	X		Rat 9.16(N)			T	Oral	
Trichloromethanethiol	P118	X	X		Human LCLo 0.45 (S)			D	Inhalation	

Name	Hazardous Waste No.	Final Disposition			Toxicity Data(1)				Commercial Product(2)	Reason on 261.33e(3)	Reason Dropped (4)
		.33e	VIII	dropped	Oral LD50 (mg/kg)	Inhalation LD50 (mg/l)	Dermal LD50 (mg/kg)				
Vanadic acid, ammonium salt	P119	X	X		Rat 18 (N)				T	Oral	
	P120	X	X		Rat 10 (N)				T	Oral	
Vanadium pentoxide	P122	X	X		Rat 40 (S)				(S)	Oral	
Zinc phosphide											

APPENDIX B

BASIS FOR INCLUSION ON §261.33(f)*

<u>HAZARDOUS WASTE NUMBER</u>	<u>REASON FOR LISTING</u>	<u>SUBSTANCE</u>
U001	1,4	Acetaldehyde (I)
U002	4	Acetone (I)
U003	1,4	Acetonitrile (I,T)
U004	1	Acetophenone
U005	3	2-Acetylaminoflourene
U006	1,4	Acetyl chloride (C,T,R)
U007	1	Acrylamide
U008	4	Acrylic acid (I)
U009	1,3	Acrylonitrile
U010	3	6-Amino-1,1a,2,8,8a,8b-hexahydro- 8-(hydroxymethyl)-8-methoxy-5- methylcarbamate azirino(2',3':3,4) pyrrolo(1,2-a)indole-4, 7-dione (ester)
U011	3	Amitrole
U012	4	Aniline (I)
U013	1	Asbestos
U014	3	Auramine
U015	3	Azaserine

- (1) OSW Health Effects Profile
 (2) NIPDWS Substance
 (3) CAG Carcinogen
 (4) Meets Criteria for
 (I), (C), or (R)
 (5) RPAR Substance

* Unless otherwise specified compounds are listed for their toxic properties.

HAZARDOUS
WASTE NUMBERREASON FOR
LISTINGSUBSTANCE

U016	3	Benz[c]acridine
U017	1	Benzal chloride
U018	1,3	Benz[a]anthracene
U019	1	Benzene
U020	4	Benzenesulfonyl chloride (C,R)
U021	1	Benzidine
U022	1	Benzo[a]pyrene
U023	4	Benzotrichloride (C,R,T)
U024	1	Bis(2-chloroethoxy)methane
U025	1,3	Bis(2-chloroethyl) ether
U026	3	N,N-Bis(2-chloroethyl)-2-naphthylamine
U027	1	Bis(2-chloroisopropyl) ether
U028	1	Bis(2-ethylhexyl) phthalate
U029	1	Bromomethane
U030	1	4-Bromophenyl phenyl ether
U031	2	n-Butyl alcohol (I)
U033	3	Calcium chromate
U034	4	Carbonyl fluoride (R)
U035	1	Chloral
U036	3	Chlorambucil
U037	1,3,5	Chlordane
U038	1	Chlorobenzene
U039	3,5	Chlorobenzilate

- (1) OSW Health Effects Profile
(2) NIPDWS Substance
(3) CAG Carcinogen
(4) Meets Criteria for
(I), (C), or (R)
(5) RPAR Substance

<u>HAZARDOUS WASTE NUMBER</u>	<u>REASON FOR LISTING</u>	<u>SUBSTANCE</u>
U040	1	p-Chloro-m-cresol
U041	1	Chlorodibromomethane
U042	1	1-Chloro-2,3-epoxypropane
U043	1	2-Chloroethyl vinyl ether
U044	1,3	Chloroethene
U045	1,3,4	Chloroform (I,T)
U046	1,4	Chloromethane (I,T)
U047	3	Chloromethyl methyl ether
U048	1	2-Chloronaphthalene
U049	1	2-Chlorophenol
U050	1,3	Chrysene
U051	1,3	Cresote
U052	1	Cresols
U053	1,4	Crotonaldehyde (I)
U054	1	Cresylic acid
U055	4	Cumene (I)
U056	4	Cyclohexane (I)
U057	4	Cyclohexanone (I)
U058	3	Cyclophosphamide
U059	3	Daunomycin
U060	1	DDD
U061	1,3	DDT

- (1) OSW Health Effects Profile
 (2) NIPDWS Substance
 (3) CAG Carcinogen
 (4) Meets Criteria for
 (I), (C), or (R)
 (5) RPAR Substance

<u>HAZARDOUS WASTE NUMBER</u>	<u>REASON FOR LISTING</u>	<u>SUBSTANCE</u>
U062	3,5	Diallate
U063	3	Dibenz[a,h]anthracene
U064	3	Dibenzo[a,i]pyrene
U065	1	Dibromochloromethane
U066	3	1,2-Dibromo-3-chloropropane
U067	3	1,2-Dibromoethane
U068	1	Dibromomethane
U069	1	Di-n-butyl phthalate
U070	1	1,2-Dichlorobenzene
U071	1	1,3-Dichlorobenzene
U072	1	1,4-Dichlorobenzene
U073	1,3	3,3'-Dichlorobenzidine
U074	4	1,4-Dichloro-2-butene (I)
U075	1	Dichlorodifluoromethane
U076	1	1,1-Dichloroethane
U077	1,3	1,2-Dichloroethane
U078	1	1,1-Dichloroethylene
U079	1	trans-1,2-Dichloroethylene
U080	1	Dichloromethane
U083	1,4	1,2-Dichloropropane (I)
U084	1	1,3-Dichloropropene
U085	3,4	1,2:3,4-Diepoxybutane (I,T)
U086	3	1,2-Diethylhydrazine
(1)	OSW Health Effects Profile	
(2)	NIPDWS Substance	
(3)	CAG Carcinogen	
(4)	Meets Criteria for (I), (C), or (R)	
(5)	RPAR Substance	

(74)

HAZARDOUS
WASTE NUMBER

REASON FOR
LISTING

SUBSTANCE

U087	1	O,O-Diethyl-S-methyl ester of phosphorodithioic acid
U088	1	Diethyl phthalate
U089	3	Diethylstilbestrol
U090	3	Dihydrosafrole
U091	3	3,3'-Dimethoxybenzidine
U092	4	Dimethylamine (I)
U093	3	p-Dimethylaminoazobenzene
U094	3	7,12-Dimethylbenz[a]anthracene
U095	3	3,3'-Dimethylbenzidine
U096	4	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	3	Dimethylcarbamoyl chloride
U098	3	1,1-Dimethylhydrazine
U099	3	1,2-Dimethylhydrazine
U100	1	Dimethylnitrosoamine
U101	1	2,4-Dimethylphenol
U102	1	Dimethyl phthalate
U103	3	Dimethyl sulfate
U104	1	2,4-Dinitrophenol
U105	1,3	2,4-Dinitrotoluene
U106	1	2,6-Dinitrotoluene
U107	1	Di-n-octyl phthalate
U108	3	1,4-Dioxane
U109	3	1,2-Diphenylhydrazine

- (1) OSW Health Effects Profile
 (2) NIPDWS Substance
 (3) CAG Carcinogen
 (4) Meets Criteria for
 (I), (C), or (R)
 (5) RPAR Substance

HAZARDOUS
WASTE NUMBER

REASON FOR
LISTING

SUBSTANCE

U110	4	Di-n-propylamine (I)
U111	3	Di-n-propylnitrosamine
U112	4	Ethyl acetate (I)
U113	4	Ethyl acrylate (I)
U114	4	Ethyl benzene (I)
U115	3	Ethylenebisdithiocarbamate
U116	3,4	Ethylene oxide (I,T)
U117	3	Ethylene thiourea
U118	1,4	Ethyl ether (I,T)
U119	1	Ethyl methacrylate
U120	3	Ethyl methanesulfonate
U121	1	Fluoranthene
U122	1	Fluorotrichloromethane
U123	1,3	Formaldehyde
U124	4	Formic acid (C,T)
U125	4	Furan (I)
U126	4	Furfural (I)
U127	3	Glycidylaldehyde
U128	1,3	Hexachlorobenzene
U129	1,3	Hexachlorobutadiene
U130	1,3	Hexachlorocyclohexane
U131	1	Hexachlorocyclopentadiene
U132	1,3	Hexachloroethane

- (1) OSW Health Effects Profile
(2) NIPDWS Substance
(3) CAG Carcinogen
(4) Meets Criteria for
(I), (C), or (R)
(5) RPAR Substance

HAZARDOUS
WASTE NUMBER

REASON FOR
LISTING

SUBSTANCE

U133	1	Hexachlorophene
U134	3,4	Hydrazine (R,T)
U135	4	Hydrofluoric acid (C,T)
U136	1	Hydrogen sulfide
U137	4	Hydroxydimethyl arsine oxide
U138	1,3	Indeno(1,2,3-cd)pyrene
U139	3	Iodomethane
U140	3	Iron Dextran
U141	4	Isobutyl alcohol
U142	3	Isosafrole
U143	3	Kepone
U144	3	Lasiocarpine
U145	1,2,5	Lead acetate
U146	1,2	Lead phosphate
U147	1,2	Lead subacetate
U148	1,2,4	Maleic anhydride
U149	4	Maleic hydrazide
U150	1	Malononitrile
U151	3	Melphalan
U152	1	Mercury
U153	4	Methacrylonitrile (I)
U154	4	Methanethiol (I)
U155	1	Methanol

- (1) OSW Health Effects Profile
- (2) NIPDWS Substance
- (3) CAG Carcinogen
- (4) Meets Criteria for
(I), (C), or (R)
- (5) RPAR Substance

HAZARDOUS
WASTE NUMBER

REASON FOR
LISTING

SUBSTANCE

U156	3	Methapyrilene
U157	4	Methyl chlorocarbonate (I)
U158	3,4	3-Methylcholanthrene
U159	3	4,4'-Methylene-bis-(2-chloroaniline)
U160	1,4	Methyl ethyl ketone (I,T)
U161	4	Methyl ethyl ketone peroxide (R)
U162	1	Methyl isobutyl ketone
U163	1,4	Methyl methacrylate (R,T,I)
U164	3	N-Methyl-N'-nitro-N-nitrosoguanidine
U165	3	Methylthiouracil
U166	1	Naphthalene
U167	1	1,4-Naphthoquinone
U168	3	1-Naphthylamine
U169	3	2-Naphthylamine
U170	1,4	Nitrobenzene (I,T)
U171	1	4-Nitrophenol
U172	4	2-Nitropropane (I)
U173	3	N-Nitrosodi-n-butylamine
U174	3	N-Nitrosodiethanolamine
U175	1,3	N-Nitrosodiethylamine
U176	1,3	N-Nitrosodi-n-propylamine
U177	3	N-Nitroso-n-ethylurea
U178	3	N-Nitroso-n-methylurea

- (1) OSW Health Effects Profile
- (2) NIPDWS Substance
- (3) CAG Carcinogen
- (4) Meets Criteria for
(I), (C), or (R)
- (5) RPAR Substance

<u>HAZARDOUS WASTE NUMBER</u>	<u>REASON FOR LISTING</u>	<u>SUBSTANCE</u>
U179	3	N-Nitroso-n-methylurethane
U180	3	N-Nitrosopiperidine
U181	3	N-Nitrosopyrrolidine
U182	3	5-Nitro-o-toluidine
U183	1	Paraldehyde
U184	1	Pentachlorobenzene
U185	1	Pentachloroethane
U186	1,3,5	Pentachloronitrobenzene
U187	4	1,3-Pentadiene (I)
U188	3	Phenacetin
U189	1	Phenol
U190	4	Phosphorus sulfide (R)
U191	1	Phthalic anhydride
U192	1	2-Picoline
U193	3	Promamide
U194	3	1,3-Propane sultone
U195	4	Propylamine (I)
U196	1	Pyridine
U197	1	Quinones
U198	3	Reserpine
U199	1	Resorcinol
U200	3	Saccharin
U201	1,3	Safrole
U202	2	Selenious acid

- (1) OSW Health Effects Profile
 (2) NIPDWS Substance
 (3) CAG Carcinogen
 (4) Meets Criteria for
 (I), (C), or (R)
 (5) RPAR Substance

<u>HAZARDOUS WASTE NUMBER</u>	<u>REASON FOR LISTING</u>	<u>SUBSTANCE</u>
U203	1,3,4	Selenium sulfide (R,T)
U204	3	Streptozotocin
U205	1,3	1,2,4,5-Tetrachlorobenzene
U206	1,3	1,1,1,2-Tetrachloroethane
U207	1	1,1,2,2-Tetrachloroethane
U208	1	Tetrachloroethene
U209	1	Tetrachloromethane
U210	1	2,3,4,6-Tetrachlorophenol
U211	4	Tetrahydrofuran (I)
U212	1,4	Thallium (I) acetate
U213	1,4	Thallium (I) carbonate
U214	1,4	Thallium (I) chloride
U215	1,4	Thallium (I) nitrate
U216	3	Thioacetamide
U217	3	Thiourea
U218	1	Toluene
U219	1	Toluenediamine
U220	3	o-Toluidine hydrochloride
U221	1	Tolyene diisocyanate
U222	1,3	Toxaphene
U223	1	Tribromomethane
U224	1	1,1,1-Trichloroethane
U225	1	1,1,2-Trichloroethane
U226	1,3	Trichloroethene

(1) OSW Health Effects Profile

(2) NIPDWS Substance

(3) CAG Carcinogen

(4) Meets Criteria for
(I), (C), or (R)

(5) RPAR Substance

HAZARDOUS
WASTE NUMBER

REASON FOR
LISTING

SUBSTANCE

U227	1	Trichlorofluoromethane
U228	1	2,4,5-Trichlorophenol
U229	1,3	2,4,6-Trichlorophenol
U230	5	2,4,5-Trichlorophenoxyacetic acid
U231	2	2-(2,4,5-Trichlorophenoxy)propionic acid
U232	1,4	Trinitrobenzene (R,T)
U233	3	Tris(2,3-dibromopropyl) phosphate
U234	3	Trypan blue
U235	3	Uracil mustard
U236	3	Urethane
U237	1	Xylene

- (1) OSW Health Effects Profile
- (2) NIPDWS Substance
- (3) CAG Carcinogen
- (4) Meets Criteria for
(I), (C), or (R)
- (5) RPAR Substance

Final Regulations

§261.33 Discarded Commercial Chemical Products, Off-Specification Species, Containers, and Spill Residues Thereof

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded:

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraphs (e) or (f) of this section.

(c) Any container or inner liner removed from a container that has been used to hold any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) of this Section, unless:

(1) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(2) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(3) In the case of a container, the inner liner that prevented contact of the commercial chemical product or

manufacturing chemical intermediate with the container, has been removed.

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this Section.

[Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in..." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraphs (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraphs (e) or (f), such waste will be listed in either §§261.31 or 261.32 or will be identified as a hazardous waste by the characteristics set forth in Subpart C of this Part.]

(e) The commercial chemical products or manufacturing chemical intermediates, referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in §261.5(c). These wastes and their corresponding EPA Hazardous Waste Numbers are:

<u>HAZARDOUS WASTE NUMBER</u>	<u>SUBSTANCE</u> [†]
	1080 see P058
	1081 see P057
	(Acetato)phenylmercury see P092
	Acetone cyanohydrin see P069
P001	3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts
P002	1-Acetyl-2-thiourea
P003	Acrolein
	Agarín see P007
	Agrosan GN 5 see P092
	Aldicarb see P069
	Aldifen see P048
P004	Aldrin
	Algimycin see P092
P005	Allyl alcohol
P006	Aluminum phosphide (R)
	ALVIT see P037

[†] The Agency included those trade names of which it was aware; an omission of a trade name does not imply that the omitted material is not hazardous. The material is hazardous if it is listed under its generic name.

	Aminoethylene see P054
P007	5-(Aminomethyl)-3-isoxazolol
P008	4-Aminopyridine
	Ammonium metavanadate see P119
P009	Ammonium picrate (R)
	ANTIMUCIN WDR see P092
	ANTURAT see P073
	AQUATHOL see P088
	ARETIT see P020
P010	Arsenic acid
P011	Arsenic pentoxide
P012	Arsenic trioxide
	Athrombin see P001
	AVITROL see P008
	Aziridene see P054
	AZOFOS see P061
	Azophos see P061
	BANTU see P072
P013	Barium cyanide
	BASENITE see P020
	BCME see P016
P014	Benzenethiol
	Benzoepin see P050
P015	Beryllium dust
P016	Bis(chloromethyl) ether
	BLADAN-M see P071
P017	Bromoacetone
P018	Brucine

P019	2-Butanone peroxide
	BUFEN see P092
	Butaphene see P020
P020	2-sec-Butyl-4,6-dinitrophenol
P021	Calcium cyanide
	CALDON see P020
P022	Carbon disulfide
	CERESAN see P092
	CERESAN UNIVERSAL see P092
	CHEMOX GENERAL see P020
	CHEMOX P.E. see P020
	CHEM-TOL see P090
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P025	1-(p-Chlorobenzoyl)-5-methoxy- 2-methylindole3-acetic acid
P026	1-(o-Chlorophenyl)thiourea
P027	3-Chloropropionitrile
P028	alpha-Chlorotoluene
P029	Copper cyanide
	CRETOX see P108
	Coumadin see P001
	Coumafen see P001
P030	Cyanides
P031	Cyanogen
P032	Cyanogen bromide
P033	Cyanogen chloride
	Cyclodan see P050

P034 2-Cyclohexyl-4,6-dinitrophenol
D-CON see U001
DETHMOR see P001
DETHNEL see P001
DFP see P043

P035 2,4-Dichlorophenoxyacetic acid (2,4-D)

P036 Dichlorophenylarsine
Dicyanogen see P031

P037 Dieldrin
DIELDREX see P037

P038 Diethylarsine

P039 O,O-Diethyl-S-(2-(ethylthio)ethyl)ester of
phosphorothioic acid

P040 O,O-Diethyl-O-(2-pyrazinyl)phosphorothioate

P041 O,O-Diethyl phosphoric acid,
O-p-nitrophenyl ester

P042 3,4-Dihydroxy-alpha-(methylamino)-
methyl benzyl alcohol

P043 Di-iso-propylfluorophosphate
DIMETATE see P044
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-
hexachloro-1,4,4a 5,8,8a-hexahydro
endo,endo see P060

P044 Dimethoate

P045 3,3-Dimethyl-1-(methylthio)-2-butanone-O-
[(methylamino)carbonyl] oxime

P046 alpha,alpha-Dimethylphenethylamine
Dinitrocyclohexylphenol see P034

P047 4,6-Dinitro-o-cresol and salts

P048 2,4-Dinitrophenol
DINOSEB see P020

	DINOSEBE see P020
	Disulfoton see P039
P049	2,4-Dithiobiuret
	DNBP see P020
	DOLCO MOUSE CEREAL see P108
	DOW GENERAL see P020
	DOW GENERAL WEED KILLER see P020
	DOW SELECTIVE WEED KILLER see P020
	DOWICIDE G see P090
	DYANACIDE see P092
	EASTERN STATES DUOCIDE see P001
	ELGETOL see P020
P050	Endosulfan
P051	Endrin
	Epinephrine see P042
P052	Ethylcyanide
P053	Ethylenediamine
P054	Ethyleneimine
	FASCO FASCRAT POWDER see P001
	FEMMA see P091
P055	Ferric cyanide
P056	Fluorine
P057	2-Fluoroacetamide
P058	Fluoroacetic acid, sodium salt
	FOLODOL-80 see P071
	FOLODOL M see P071
	FOSFERNO M 50 see P071

FRATOL see P058

Fulminate of mercury see P065

FUNGITOX OR see P092

FUSSOF see P057

GALLOTOX see P092

GEARPHOS see P071

GERUTOX see P020

P059 Heptachlor

P060 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-
1,4:5,8-endo,endo-dimethanonaphthalene

1,4,5,6,7,7-Hexachloro-cyclic-5-norbornene-2,
3-dimethanol sulfite see P050

P061 Hexachloropropene

P062 Hexaethyl tetraphosphate

HOSTAQUICK see P092

HOSTAQUIK see P092

Hydrazomethane see P068

P063 Hydrocyanic acid

ILLOXOL see P037

INDOCI[®] see P025

Indomethacin see P025

INSECTOPHENE see P050

Isodrin see P060

P064 Isocyanic acid, methyl ester

KILOSEB see P020

KOP-THIODAN see P050

KWIK-KIL see P108

KWIKSAN see P092

KUMADER see P001

	KYPFARIN see P001
	LEYTOSAN see P092
	LIQUIPHENE see P092
	MALIK see P050
	MAREVAN see P001
	MAR-FRIN see P001
	MARTIN'D MAR-FRIN see P001
	MAVERAN see P001
	MEGATOX see P005
P065	Mercury fulminate
	MERSOLITE see P092
	METACID 50 see P071
	METAFOS see P071
	METAPHOR see P071
	METAPHOS see P071
	METASOL 30 see P092
P066	Methomyl
P067	2-Methylaziridine
	METHYL-E 605 see P071
P068	Methyl hydrazine
	Methyl isocyanate see P064
P069	2-Methylactonitrile
P070	2-Methyl-2-(methylthio)propionaldehyde-
	o-(methylcarbonyl) oxime
	METHYL NIRON see P042
P071	Methyl parathion
	METRON see P071
	MOLE DEATH see P108

MOUSE-NOTS see P108
 MOUSE-RID see P108
 MOUSE-TOX see P108
 MUSCIMOL see P007
 P072 1-Naphthyl-2-thiourea
 P073 Nickel carbonyl
 P074 Nickel cyanide
 P075 Nicotine and salts
 P076 Nitric oxide
 P077 p-Nitroaniline
 P078 Nitrogen dioxide
 P079 Nitrogen peroxide
 P080 Nitrogen tetroxide
 P081 Nitroglycerine (R)
 P082 N-Nitrosodimethylamine
 P083 N-Nitrosodiphenylamine
 P084 N-Nitrosomethylvinylamine
 NYLMERATE see P092
 OCTALOX see P037
 P085 Octamethylpyrophosphoramide
 OCTAN see P092
 P086 Oleyl alcohol condensed
 with 2 moles ethylene oxide
 OMPA see P085
 OMPACIDE see P085
 OMPAX see P085
 P087 Osmium tetroxide
 P088 7-Oxabicyclo[2.2.1]heptane-2,
 3-dicarboxylic acid

	PANIVARFIN see P001
	PANORAM D-31 see P037
	PANTHERINE see P007
	PANWARFIN see P001
P089	Parathion
	PCP see P090
	PENNCAP-M see P071
	PENOKYL CARBON N see P048
P090	Pentachlorophenol
	Pentachlorophenate see P090
	PENTA-KILL see P090
	PENTASOL see P090
	PENWAR see P090
	PERMICIDE see P090
	PERMAGUARD see P090
	PERMATOX see P090
	PERMITE see P090
	PERTOX see P090
	PESTOX III see P085
	PHENMAD see P092
	PHENOTAN see P020
P091	Phenyl dichloroarsine
	Phenyl mercaptan see P014
P092	Phenylmercury acetate
P093	N-Phenylthiourea
	PHILIPS 1861 see P008
	PHIX see P092
P094	Phorate

P095	Phosgene
P096	Phosphine
P097	Phosphorothioic acid, O,O-dimethyl ester, O-ester with N,N-dimethyl benzene sulfonamide
	Phosphorothioic acid O,O-dimethyl-O- (p-nitrophenyl) ester see P071
	PIED PIPER MOUSE SEED see P108
P098	Potassium cyanide
P099	Potassium silver cyanide
	PREMERGE see P020
P100	1,2-Propanediol
	Propargyl alcohol see P102
P101	Propionitrile
P102	2-Propyn-1-ol
	PROTHROMADIN See P001
	QUICKSAM see P092
	QUINTOX see P037
	RAT AND MICE BAIT see P001
	RAT-A-WAY see P001
	RAT-B-GON see P001
	RAT-O-CIDE #2 see P001
	RAT-GUARD see P001
	RAT-KILL see P001
	RAT-MIX see P001
	RATS-NO-MORE see P001
	RAT-OLA see P001
	RATOREX see P001
	RATTUNAL see P001

	RAT-TROL see P001
	RO-DETH see P001
	RO-DEX see P108
	ROSEX see P001
	ROUGH & READY MOUSE MIX see P001
	SANASEED see P108
	SANTOBRITE see P090
	SANTOPHEN see P090
	SANTOPHEN 20 see P090
	SCHRADAN see P085
P103	Selenourea
P104	Silver cyanide
	SMITE see P105
	SPARIC see P020
	SPOR-KIL see P092
	SPRAY-TROL BRAND RODEN-TROL see P001
	SPURGE see P020
P105	Sodium azide
	Sodium coumadin see P001
P106	Sodium cyanide
	Sodium fluoroacetate see P056
	SODIUM WARFARIN see P001
	SOLFARIN see P001
	SOLFOBLACK BB see P048
	SOLFOBLACK SB see P048
P107	Strontium sulfide
P108	Strychnine and salts
	SUBTEX see P020

	SYSTAM see P085
	TAG FUNGICIDE see P092
	TEKWAISA see P071
	TEMIC see P070
	TEMIK see P070
	TERM-I-TROL see P090
P109	Tetraethyldithiopyrophosphate
P110	Tetraethyl lead
P111	Tetraethylpyrophosphate
P112	Tetranitromethane
	Tetraphosphoric acid, hexaethyl ester see P062
	TETROSULFUR BLACK PB see P048
	TETROSULPHUR PBR see P048
P113	Thallic oxide
	Thallium peroxide see P113
P114	Thallium selenite
P115	Thallium (I) sulfate
	THIFOR see P092
	THIMUL see P092
	THIODAN see P050
	THIOFOR see P050
	THIOMUL see P050
	THIONEX see P050
	THIOPHENIT see P071
P116	Thiosemicarbazide
	Thiosulfan tional see P050
P117	Thiuram

	THOMPSON'S WOOD FIX see P090
	TIOVEL see P050
P118	Trichloromethanethiol
	TWIN LIGHT RAT AWAY see P001
	USAF RH-8 see P069
	USAF EK-4890 see P002
P119	Vanadic acid, ammonium salt
P120	Vanadium pentoxide
	VOFATOX see P071
	WANADU see P120
	WARCOUMIN see P001
	WARFARIN SODIUM see P001
	WARFICIDE see P001
	WOFOTOX see P072
	YANOCK see P057
	YASOKNOCK see P058
	ZIARNIK see P092
P121	Zinc cyanide
P122	Zinc phosphide (R,T)
	ZOOCOUMARIN see P001

(f) The commercial chemical products or manufacturing chemical intermediates, referred to in paragraphs (a), (b) and (d) of this section, are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in §261.5(a) and (b). These wastes and their corresponding EPA Hazardous Waste Numbers are:

<u>HAZARDOUS WASTE NUMBER</u>	<u>SUBSTANCE</u> [†]
	AAF see U005
U001	Acetaldehyde
U002	Acetone (I)
U003	Acetonitrile (I,T)
U004	Acetophenone
U005	2-Acetylaminoflourene
U006	Acetyl chloride (C,T)
U007	Acrylamide
	Acetylene tetrachloride see U209
	Acetylene trichloride see U228
U008	Acrylic acid (I)
U009	Acrylonitrile
	AEROTHENE TT see U226
	3-Amino-5-(p-acetamidophenyl)-1H-1,2,4- triazole, hydrate see U011
U010	6-Amino-1,1a,2,8,8a,8b-hexahydro- 8-(hydroxymethyl)8-methoxy-5- methylcarbanate azirino(2',3':3,4) pyrrolo(1,2-a)indole-4, 7-dione (ester)

† The Agency included those trade names of which it was aware; an omission of a trade name does not imply that it is not hazardous. The material is hazardous if it is listed under its generic name.

U011	Anitrole
U012	Aniline (I)
U013	Asbestos
U014	Auramine
U015	Azaserine
U016	Benz[c]acridine
U017	Benzal chloride
U018	Benz[a]anthracene
U019	Benzene
U020	Benzenesulfonyl chloride (C,R)
U021	Benzidine
	1,2-Benzisothiazolin-3-one, 1,1-dioxide see U202
	Benzo[a]anthracene see U018
U022	Benzo[a]pyrene
U023	Benzotrichloride (C,R,T)
U024	Bis(2-chloroethoxy)methane
U025	Bis(2-chloroethyl) ether
U026	N,N-Bis(2-chloroethyl)-2-naphthylamine
U027	Bis(2-chloroisopropyl) ether
U028	Bis(2-ethylhexyl) phthalate
U029	Bromomethane
U030	4-Bromophenyl phenyl ether
U031	n-Butyl alcohol (I)
U032	Calcium chromate
	Carbolic acid see U188
	Carbon tetrachloride see U211
U033	Carbonyl fluoride

U034	Chloral
U035	Chlorambucil
U036	Chlordane
U037	Chlorobenzene
U038	Chlorobenzilate
U039	p-Chloro-m-cresol
U040	Chlorodibromomethane
U041	1-Chloro-2,3-epoxypropane
	CHLOROETHENE NU see U226
U042	Chloroethyl vinyl ether
U043	Chloroethene
U044	Chloroform (I,T)
U045	Chloromethane (I,T)
U046	Chloromethyl methyl ether
U047	2-Chloronaphthalene
U048	2-Chlorophenol
U049	4-Chloro-o-toluidine hydrochloride
U050	Chrysene
	C.I. 23060 see U073
U051	Cresote
U052	Cresols
U053	Crotonaldehyde
U054	Cresylic acid
U055	Cumene
	Cyanomethane see U003
U056	Cyclohexane (I)
U057	Cyclohexanone (I)
U058	Cyclophosphamide

U059	Daunomycin
U060	DDD
U061	DDT
U062	Diallate
U063	Dibenz[a,h]anthracene
	Dibenzo[a,h]anthracene see U063
U064	Dibenzo[a,i]pyrene
U065	Dibromochloromethane
U066	1,2-Dibromo-3-chloropropane
U067	1,2-Dibromoethane
U068	Dibromomethane
U069	Di-n-butyl phthalate
U070	1,2-Dichlorobenzene
U071	1,3-Dichlorobenzene
U072	1,4-Dichlorobenzene
U073	3,3'-Dichlorobenzidine
U074	1,4-Dichloro-2-butene
	3,3'-Dichloro-4,4'-diaminobiphenyl see U073
U075	Dichlorodifluoromethane
U076	1,1-Dichloroethane
U077	1,2-Dichloroethane
U078	1,1-Dichloroethylene
U079	1,2-trans-Dichloroethylene
U080	Dichloromethane
	Dichloromethylbenzene see U017
U081	2,4-Dichlorophenol
U082	2,6-Dichlorophenol

U083	1,2-Dichloropropane
U084	1,3-Dichloropropene
U085	Diepoxybutane (I,T)
U086	1,2-Diethylhydrazine
U087	O,O-Diethyl-S-methyl ester of phosphorodithioic acid
U088	Diethyl phthalate
U089	Diethylstilbestrol
U090	Dihydrosafrole
U091	3,3'-Dimethoxybenzidine
U092	Dimethylamine (I)
U093	p-Dimethylaminoazobenzene
U094	7,12-Dimethylbenz[a]anthracene
U095	3,3'-Dimethylbenzidine
U096	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	Dimethylcarbamoyl chloride
U098	1,1-Dimethylhydrazine
U099	1,2-Dimethylhydrazine
U100	Dimethylnitrosoamine
U101	2,4-Dimethylphenol
U102	Dimethyl phthalate
U103	Dimethyl sulfate
U104	2,4-Dinitrophenol
U105	2,4-Dinitrotoluene
U106	2,6-Dinitrotoluene
U107	Di-n-octyl phthalate
U108	1,4-Dioxane
U109	1,2-Diphenylhydrazine

U110	Dipropylamine (I)
U111	Di-n-propylnitrosamine
	EBDC see U114
	1,4-Epoxybutane see U213
U112	Ethyl acetate (I)
U113	Ethyl acrylate (I)
U114	Ethylenebisdithiocarbamate
U115	Ethylene oxide (I,T)
U116	Ethylene thiourea
U117	Ethyl ether (I,T)
U118	Ethylmethacrylate
U119	Ethyl methanesulfonate
	Ethyl nitrile see U003
	Firemaster T23P see U235
U120	Fluoranthene
U121	Fluorotrichloromethane
U122	Formaldehyde
U123	Formic acid (C,T)
U124	Furan (I)
U125	Furfural (I)
U126	Glycidylaldehyde
U127	Hexachlorobenzene
U128	Hexachlorobutadiene
U129	Hexachlorocyclohexane
U130	Hexachlorocyclopentadiene
U131	Hexachloroethane
U132	Hexachlorophene
U133	Hydrazine (R,T)

U134	Hydrofluoric acid (C,T)
U135	Hydrogen sulfide
	Hydroxybenzene see U188
U136	Hydroxydimethyl arsine oxide
	4,4'-(Imidocarbonyl)bis(N,N-dimethyl)aniline see U014
U137	Indeno(1,2,3-cd)pyrene
U138	Iodomethane
U139	Iron Dextran
U140	Isobutyl alcohol
U141	Isosafrole
U142	Kepone
U143	Lasiocarpine
U144	Lead acetate
U145	Lead phosphate
U146	Lead subacetate
U147	Maleic anhydride
U148	Maleic hydrazide
U149	Malononitrile
	MEK Peroxide see U160
U150	Melphalan
U151	Mercury
U152	Methacrylonitrile
U153	Methanethiol
U154	Methanol
U155	Methapyrilene
	Methyl alcohol see U154
U156	Methyl chlorocarbonate

	Methyl chloroform see U226
U157	3-Methylcholanthrene
	Methyl chloroformate see U156
U158	4,4'-Methylene-bis-(2-chloroaniline)
U159	Methyl ethyl ketone (MEK) (I,T)
U160	Methyl ethyl ketone peroxide (R)
	Methyl iodide see U138
U161	Methyl isobutyl ketone
U162	Methyl methacrylate (R,T)
U163	N-Methyl-N'-nitro-N-nitrosoguanidine
U164	Methylthiouracil
	Mitomycin C see U010
U165	Naphthalene
U166	1,4-Naphthoquinone
U167	1-Naphthylamine
U168	2-Naphthylamine
U169	Nitrobenzene (I,T)
	Nitrobenzol see U169
U170	4-Nitrophenol
U171	2-Nitropropane (I)
U172	N-Nitrosodi-n-butylamine
U173	N-Nitrosodiethanolamine
U174	N-Nitrosodiethylamine
U175	N-Nitrosodi-n-propylamine
U176	N-Nitroso-n-ethylurea
U177	N-Nitroso-n-methylurea
U178	N-Nitroso-n-methylurethane

U179	N-Nitrosopiperidine
U180	N-Nitrosopyrrolidine
U181	5-Nitro-o-toluidine
U182	Paraldehyde
	PCNB see U185
U183	Pentachlorobenzene
U184	Pentachloroethane
U185	Pentachloronitrobenzene
U186	1,3-Pentadiene (I)
	Perc see U210
	Perchlorethylene see U210
U187	Phenacetin
U188	Phenol
U189	Phosphorous sulfide (R)
U190	Phthalic anhydride
U191	2-Picoline
U192	Pronamide
U193	1,3-Propane sultone
U194	n-Propylamine (I)
U196	Pyridine
U197	Quinones
U200	Reserpine
U201	Resorcinol
U202	Saccharin
U203	Safrole
U204	Selenious acid
U205	Selenium sulfide (R,T)
	Silvex see U233

U206	Streptozotocin
	2,4,5-T see U232
U207	1,2,4,5-Tetrachlorobenzene
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane
U210	Tetrachloroethene
	Tetrachloroethylene see U210
U211	Tetrachloromethane
U212	2,3,4,6-Tetrachlorophenol
U213	Tetrahydrofuran (I)
U214	Thallium (I) acetate
U215	Thallium (I) carbonate
U216	Thallium (I) chloride
U217	Thallium (I) nitrate
U218	Thioacetamide
U219	Thiourea
U220	Toluene
U221	Toluenediamine
U222	o-Toluidine hydrochloride
U223	Tolyene diisocyanate
U224	Toxaphene
	2,4,5-TP see U233
U225	Tribromomethane
U226	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane
U228	Trichloroethene
	Trichloroethylene see U228
U229	Trichlorofluoromethane